Vol. 107 No. 19 November 15, 1947

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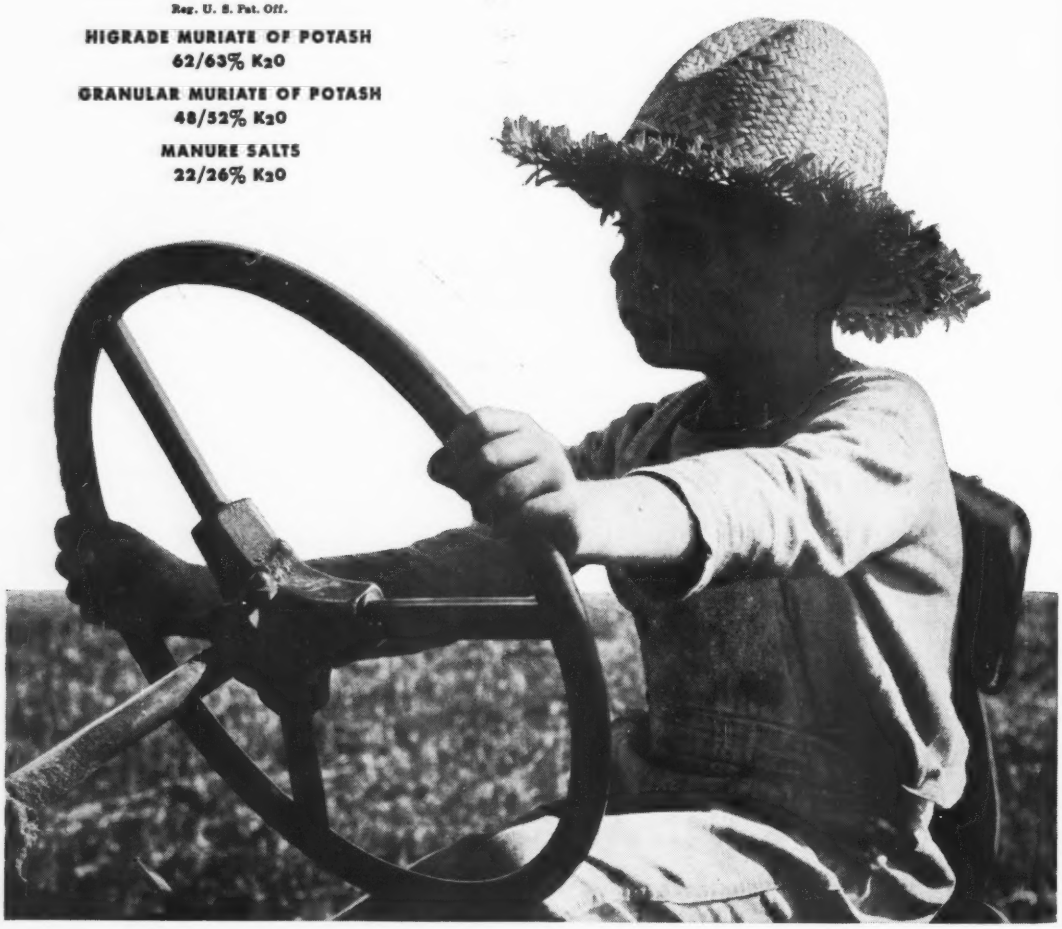

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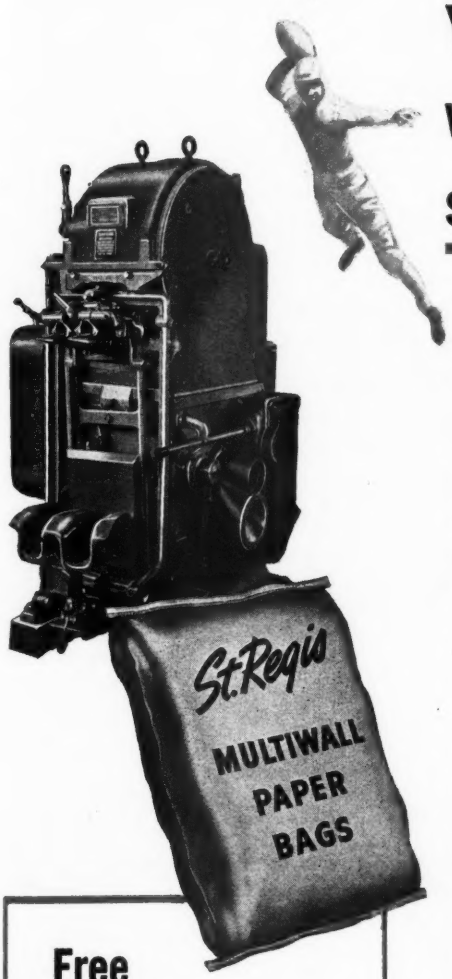

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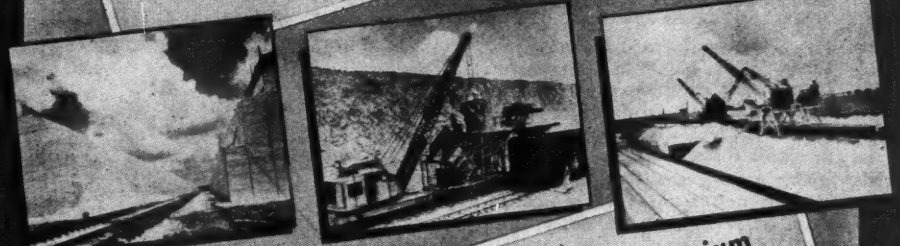

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The American FERTILIZER

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President's Council Urges Increased Nitrogen Exports

Economic Advisers Recommend Resumption of Domestic Controls Similar to Wartime Allocations

The Council of Economic Advisers, appointed recently by President Truman, issued a report on November 1st urging that exports of nitrogen fertilizers from this country to Europe be materially increased this year. In order to effect this, it also recommended that the wartime end-use controls be resumed in the domestic distribution of nitrogen materials.

While noting that American farmers themselves will be short on nitrogen this spring, the council weighed two European shortages—those of food and fertilizers—against each other and came up with this conclusion:

"It seems uneconomical even in the immediate interest of our own economy not to enlarge the nitrogen export. For by doing so, the aid to agricultural production abroad would release far more pressure on the domestic economy than the export of more nitrogen would cause."

The council added that nitrogen exports to Europe could be increased "without serious consequences to American agriculture."

Under the international allocation program of IEFC, the United States is committed to export 57,860 short tons of nitrogen this year, principally to Europe, exclusive of occupied Germany. Army Ordnance plants intend to ship about 253,000 tons of nitrogen to the British-United States zones of Germany.

"In the case of nitrogen, exports can reduce the need for food imports more than proportionately," the council said. "Yet," it added, "without some degree of restricted domestic use and allocation for export, there appears very little prospect that we will add greatly to the alleviation of the nitrogen shortages in Europe."

The council did not elucidate upon this statement. Beyond it, the brief discussion of nitrogen fertilizers included no more than a recital of the oft-noted statistics of world supply and demand.

Nitrogen fertilizers are now subject to "some degree" of Government control, namely allocation for export. Because world supplies are not expected to meet world demand before 1950, the council's statement may be taken as support for extension of export allocation controls beyond February 29, 1948, when Congressional authorizations expire.

As for restrictions on domestic use, the council clearly inferred that the normal restriction of inadequate supply is not what it meant. Restoration of Government end-use allocation to producers of fertilizers, however, would require a "heavy program with a lot of manpower" to administer it, Government officials familiar with such a program point out.

The council also said that "fuller conversion of wartime nitrogen facilities (presumably Army Ordnance plants) would lessen the domestic sacrifices." However, other Government officials state that the Army

lacks funds for increasing production at these plants.

The Army currently is producing at converted Ordnance works about 42,000 tons of nitrogen (135,000 tons of ammonium fertilizer material) a month for shipment to Germany. Even should production be increased at these plants, there is little doubt that the Army would be reluctant to permit the increased output to be distributed to foreign countries other than Germany.

In actual practice, IEFC allocates Army production to Germany only in theory by "rubbing stamping" the Army production for allocation to Germany. Germany, while still short of nitrogen, is receiving, under this procedure, proportionately more nitrogen than other European countries.

Of the 57,860 tons of nitrogen promised for commercial export from the United States in 1947–48, about 30,000 tons have been allocated for shipment to Europe. The European countries scheduled to receive it are Finland, Turkey, Greece, France and The Netherlands.

Last year the United States shipped some 67,000 tons abroad to Finland, France and The Netherlands in Europe in addition to UNRRA shipments, which went mostly to China but also to Czechoslovakia and other European countries.

World consumption has increased from 3,400,000 tons of nitrogen last year to an estimated 3,700,000 tons in 1947–48.

Industry Protests Increased Freight Rates

The petition of the railroads for an increase in freight rates on fertilizers of upward of 37 per cent was strongly opposed on behalf of the fertilizer industry by F. S. Lodge, of The National Fertilizer Association, at the Chicago hearings before the Interstate Commerce Commission.

Mr. Lodge told the commission that fertilizers already are paying a heavy toll in freight charges to the railroads, when consideration is given the cumulative freight costs that result from the inbound and outbound movements of fertilizers and fertilizer materials. These movements, in effect, double the freight revenues, he declared.

Another point that should be considered by the commission in dealing with this question, he said, is the fact that fertilizers, by their use on the farms, increase the tonnage of freight movement of crops from the farms by an amount greater than the tonnage of fertilizer consumed.

Mr. Lodge pointed out that freight paid to Class I railroads in 1946 on phosphate rock, sulphur and fertilizer materials amounted to $116,993,000 which is more than double the amount paid in 1928 and five times as much as in 1932. He warned that an increase in the rates will decrease the revenues of the railroads from these materials, as it will drive still greater tonnages to other forms of transportation.

Fertilizer Application Committee To Meet in Chicago

The National Joint Committee of Fertilizer Application, composed of representatives of The National Fertilizer Association, the American Society of Agronomy and other organizations, will hold a meeting on December 15th at the Stevens Hotel, Chicago, Ill. There will be two sessions, at 9:45 A. M. and at 2 P. M., and an invitation is extended to all who are interested in the subject of fertilizer application.

The morning session will discuss two pertinent subjects. The first of these, "Soil Fertility and Plant Breeding in Relation to Fertilizer Application," will be covered by short addresses on the Plant-Breeding Phase, by Dr. F. H. Hull, Florida Experiment Station; on the Soil Phase, by Dr. Firman E. Bear, New Jersey Experiment Station; on the Fertilizer Phase, by Dr. H. B. Siems, Swift & Company Plant Food Division; on the Farm Equipment Phase, by W. A. Roberts, Past Chairman, Farm Equipment Institute. The second subject will be "Radioactive Applications to Agriculture," and the speakers will be Vincent Sanchelli, Davison Chemical Corporation; Dr. W. L. Nelson, North Carolina Experiment Station; and a member of the U. S. Atomic Energy Commission.

The topic for the afternoon will be some special fertilizer placement problems. The list of addresses includes "Soil Compaction" by Dr. G. N. Hoffer, American Potash Institute; "Liquid Fertilizers" by Dr. W. B. Andrews, Mississippi Experiment Station; "Subsoil Treatment" by Dr. N. J. Volk, Indiana Experiment Station; "Irrigation Conditions" by Frank G. Steward, Shell Chemical Corporation. Following these talks there will be committee reports and a general discussion of organization, objectives and activites, Dr. Jackson B. Hester, General Chairman, presiding.

Our Responsibilities and Obligations*

By DR. JOHN R. TAYLOR, Jr.

Agronomist of the American Plant Food Council, Inc., Washington, D. C.

THE responsibilities and obligations of control officials and the fertilizer industry are many and varied and perhaps not fully appreciated by the public. Today commercial plant food occupies a major role in both our economic and agricultural economy. Without commercial plant food the world would be faced with even more hunger and distressing conditions than now prevail.

We each have responsibilities and obligations in dealing with plant food and the public. Among other things, it is the responsibility of the fertilizer industry to supply the needed plant food in accordance with the provisions of the State fertilizer laws and it is the responsibility and obligation of the control officials to see that such provisions are fulfilled. These laws are for the protection of the farmer and the manufacturer.

Fertilizer control officials are to be congratulated on the job that they are doing in the impartial enforcement of the fertilizer control laws which we now have in 47 of the 48 States. The first State fertilizer control law was enacted by the State of Massachusetts 78 years ago (March 10, 1869) and was entitled "An Act to Prevent the Manufacture and Sale of Adulterated Commercial Fertilizers." This act contained only two sections and apparently was not too satisfactory because it was replaced four years later in 1873 with a law entitled "An Act Concerning Commercial Fertilizers." The second control law contained seven sections and specified for the first time that percentages of nitrogen, phosphoric acid and potash should be shown by the analyses.

State control laws should not remain static because the fertilizer industry is progressive, thus creating new and improving old products for a continually changing agriculture. A comparison of our State laws today with the first law enacted in Massachusetts shows this march of progress. More changes will occur in the future.

We are hearing more and more about secondary and minor plant nutrient deficiencies in our crops and soils. In my opinion these deficiencies are more widespread than is generally recognized. As we increase our yields per acre we will have more and more secondary and minor element deficiencies. As fast as the facts are established, the plant food industry is meeting its obligations of supplying these plant foods as recommended by the agronomists. Therefore, our control laws must be kept modern and up to date, consistent with advances in research, and this is a responsibility of the control officials working in cooperation with other agricultural leaders.

As control officials you know your responsibilities and obligations and a glance at your program will show some of the important problems with which we are faced today. The problem of sampling is of major importance to the fertilizer industry and the program shows that some real thought and study is being given by your Association to this important problem.

Soil and crops do not observe State boundaries and although States have their individual problems, there is a growing trend toward more uniformity of State control laws. This is desirable especially in provisions dealing with tags, labeling, grades and plant food content.

Need for Accurate Statistics

The recent war has emphasized the need for accurate detailed fertilizer consumption figures and it seems only logical that the source of this information should be the State control official. Dr. A. L. Mehring of the U. S. Department of Agriculture gave an excellent discussion on this subject to members of the fertilizer industry in a meeting at Beltsville. Wholehearted cooperation of industry with control officials is necessary in compiling detailed fertilizer consumption figures.

*An address before the First Annual Convention of the Association of American Fertilizer Control Officials at the Shoreham Hotel, Washington, D. C., on October 21, 1947.

As a representative of the plant food industry I can assure you that this industry is well aware of its obligations to the farmer as well as to agriculture in general. Farmers can buy their plant food needs with confidence and industry recognizes that adequate State control laws are to the interest of both farmer and manufacturer. A major purpose of the American Plant Food Council is to support and encourage the agricultural research, educational and control agencies.

Cooperation of the Industry

While the fertilizer manufacturer recognizes his obligation to furnish farmers with the plant foods fully in keeping with the guarantees on the fertilizer bag, his interest in agriculture goes far beyond compliance with the control laws. You will find the fertilizer manufacturer alert to the changing farming pattern and eager to cooperate with the respective land grant colleges, farm organizations and the control officials in promoting agronomically and economically sound programs. You will find the fertiiizer manufacturer or his representative around the conference tables when policies are being discussed looking toward continued independence for agriculture. You will find a corps of agronomists and chemists employed by industry to work with Federal and State scientists, with control officials and others whose mutual concern is our soil and how to keep it productive.

The good name of industry is protected by the rigid impartial enforcement of the fertilizer control laws. Industry's stake in control work is comparable to industry's concern for maintaining agricultural prosperity.

Meeting the Increased Demand

At present the demand for plant food is in excess of supply but the industry recognizes its responsibility in meeting this demand. Industry is justifiably proud of its continuous yearly record-breaking production which will be close to 17 million tons this fiscal year, compared with about 7½ million tons prewar, but we are not resting on our laurels. New plants are being built and new mines are being opened. Expansion would be even more rapid but for lack of essential building materials, equipment and transportation facilities.

Speaking of fertilizer supplies, let me emphasize here that having a demand for fertilizer in excess of supply is a relatively new experience for industry as you officials from the older using States know so well. Some of you in the so-called newer fertilizer using areas recall the time—not too long ago—when manufacturers were wearing their hearts out trying to stimulate the use of plant foods. Many of you recall the pioneer efforts of industry in promoting higher analysis fertilizers. Long before most farmers were ready for acceptance of such grades, industry was knocking on the farm doors in the Midwest with grades like 9–27–9 and 9–18–18—but growers were not ready to accept these higher analyses.

Future Problems

Looking toward the future for a moment, let me hasten to assure you that the time is not in the too distant future when industry again will have all the plant food that farmers will buy. Let me add that industry will meet all the fertilizer requirements of the farmer in the future as they have been so abundantly met in all normal periods.

But in the meantime, we earnestly solicit your cooperation and your sympathetic understanding of our problems as we continue to topple production records year after year. And without laboring the point, I commend those of you who have called the manufacturers of your State into conferences to discuss their production problems as well as the long-range plant food programs which are so important to the agricultural well-being of the Nation and a policy of realistic abundance about which we have heard so much from our national leaders.

In conclusion, fertilizer manufacturers, farmers, soil scientists and the public in general have a stake in the rigid impartial enforcement of the fertilizer control laws and working together they can maintain the standards essential to a successful agriculture.

Army Nitrogen Plants To Be Leased

It has been reported that three Army Ordnance plants, which are now producing ammonium nitrate for shipment to occupied Germany, will be offered for lease to private industry in the near future.

The plants are the "Cactus" plant at Etter, Texas, now being operated for the Army by Spencer Chemical Company; West Henderson, Ky., Ordnance plant, being operated by The Solvay Process division of Allied Chemical & Dye Corporation; and the Morgantown, W. Va., plant, being operated by Heyden Chemical Company.

Phosphate Exports Should Show Future Increase

Louis Ware, President of International Minerals & Chemical Corporation, Expects Export Business To Take Up Slack when Domestic Demand Drops Off

EXPANDING Asiatic and South American markets for phosphate fertilizers may provide substantial outlets for United States material by the time farm prices here level off, bringing an expected decline in domestic demand for plant food.

Asiatic outlets will be lasting markets for American phosphate rock and fertilizers made from it, Louis Ware, president of International Minerals & Chemical Corporation, Chicago, told the New York Society of Security Analysts at a recent New York meeting.

Three years from now Japan will need more phosphate than currently, Ware said, and added that only one small plant was operating in Japan now. Shipments to India, made recently for the first time, will increase, he added.

Citing the need in South America for phosphate fertilizers, especially in Brazil, Ware predicted that the movement of phosphate rock from Florida to Latin America will increase despite competition from supplies from North Africa. Florida phosphate already goes to Mexico.

While some drop in domestic demand for fertilizers is expected when farm prices fall, Ware emphasized that the long term trend in fertilizer use is upward. Use of fertilizer saves farm labor and also increases the volume and quality of foodstuffs produced, he pointed out. Farmers have been educated to these facts, he said, and will take advantage of them in times of lower farm income.

Moreover, high yield crops such as hybrid corn drain the minerals from soils quickly, and replacement is required. Iowa is now using 25 times as much fertilizer as was consumed annually in the State in the 1935–39 period. Illinois is using ten times as much. Wisconsin and Minnesota are using eight times as much.

It has been estimated that soils in the United States need from four to five times the amount of fertilizer being used now if the richness of the soils is to be maintained.

At the same time, use of phosphate and potassium chemicals by the chemical industry is increasing. This added demand enhances the outlook for fertilizer producers.

The United States will have to continue to ship large quantities of fertilizers to Europe for several years, Ware predicted. Production of fertilizers in Europe is tied to the steel and other industries. For example, German steel mills provided both nitrogen and phosphate materials for fertilizers. Hence, the increased output of fertilizers in Europe depends on the restoration of steel and other industries.

"It will be quite a while before German potash exports to the United States are resumed in volume," Ware said. The German potash production is concentrated in the zone of Germany occupied by Russia. Potash from these mines is moving eastward.

Only token quantities of European potash have come into the United States since the war, he disclosed. For it the sellers demanded and received twice the price of domestic potash.

When foreign potash is available to the United States, European producers will be able to compete favorably for East Coast markets, he warned. Inland areas will always be supplied by domestic producers.

The over-all outlook for sales of American fertilizer is good, he declared. European soils require from five to six times as much fertilizer per acre as do American soils. Without it food production is cut about 50 per cent. As long as European nations have dollar credits, fertilizers will be in large demand. The natural shifting of dollar credits from one nation to another will insure the continuation of substantial fertilizer exports from this country, Ware said.

Production of plant foods in the United States will total 17,000,000 tons compared to an average of 8,000,000 tons prewar, he estimated. While few new plants have been built, old ones are operating for longer periods of the year and producing at higher rates than before the war.

United States consumption of potash will total about 775,000 tons (K_2O content), Ware

(Continued on page 28)

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Research Incentives

The hope of reward and private gain through patent rights has been the incentive that has caused this nation to lead the world in inventive skill and engineering achievements. It has meant the outpouring of vast wealth in private research. Perhaps as much has been spent to find that ideas will not work as has been spent in finding preconceived ideas that have worked. But private capital has been willing to take the risk.

Whatever else, research is slow and tedious. Not infrequently in the processes of research, new discoveries are made that lead the chase off in an entirely new direction. So research must be elastic, and there is no telling in advance, what a research project may cost. Research is a daring adventure and in some instances a gamble. It takes fortitude and plenty of cash to carry through. The hope of private reward is the sustaining force.

Suppose this hope of reward were removed and all research work were nationalized, ordered and directed by a Washington group; how far and how fast would this work proceed? Quite a good deal of research has been financed by Congressional appropriations for many years, particularly in the field of agriculture. Many important discoveries have resulted, it is true, but if the research workers had been rewarded personally for the important discoveries made, is it not possible that the hope of reward would have spurred them on to greater activity, and that greater results would have been achieved?

The fear that some other nation may discover new atomic secrets ahead of ours has aroused public interest in research as never before and Congress has been considering large new appropriations for special research.

But what the public does not realize is that research is a long and arduous process. And when there are not immediate important discoveries, is it not probable that unfavorable public reaction will follow? Will Congressmen then find that research appropriations are not vote-getters and lose interest?

Unless the research worker has a stake in his brain child, and incentive of personal reward, research will drag and never attain full productiveness.

Consider this worker and do not force him to sell his birthright for a mess of pottage. Depriving the individual of the hope of personal reward is not the democratic way. And in these days, the democratic way is the way that should be fostered and encouraged to the limit.

Summers' Canadian Plant Burned

A fire of undetermined origin totally destroyed the plant of the Summers Fertilizer Company at St. Stephen, New Brunswick, Canada, on October 29th. The plant was located on the Canadian Pacific Railroad and supplied farmers in both New Brunswick and Maine. The loss is estimated at $500,000 fully covered by insurance.

It was erroneously reported by the local press that the fire was caused by an explosion of ammonium nitrate. While several cars of this material were in the plant, there was no explosion, although the material was totally consumed.

An announcement by J. E. Totman, president of the Summers Fertilizer Company, states that plans for rebuilding are now under way. A new all-steel fireproof building will be erected, equipped with the latest mixing and handling machinery. The Canadian government has granted top priority on building materials for the new plant and suppliers of machinery and raw materials have promised maximum cooperation. The company's customers will be supplied from increased facilities which have been installed at their Searsport and Sandy Point plants, as well as from other Summers' plants in Maine.

Hester To Head A. C. S. Fertilizer Division

Dr. Jackson B. Hester, of the Campbell Soup Company, Department of Agricultural Research, Riverton, N. J., has been elected chairman of the Division of Fertilizer Chemistry of the American Chemical Society, succeeding Charles A. Butt of the International Minerals and Chemical Corporation, East Point, Ga.

Vincent Sauchelli of the Davison Chemical Corporation was chosen secretary of the Division. Named to the executive committee were Dr. Butt, Professor Firman E. Bear of Rutgers University, Dr. S. F. Thornton of the F. S. Royster Guano Company, Norfolk, Va., and Dr. H. B. Siems of Swift & Company, Chicago.

Dr. Hester, who was born in Easley, S. C., received his Bachelor of Science degree from Clemson College in 1926, his Master of Science degree from the University of Florida in 1930 and his Doctor of Philosophy degree from Rutgers University in 1932.

After passing five years as a soil technologist at the Virginia Truck Experiment Station, Dr. Hester joined the Campbell Company staff in 1937. Commissioned a captain in the Army Air Forces in 1942, he served overseas for three years.

After passing five years as a soil technologist at the Virginia Truck Experiment Station, Dr. Hester joined the Campbell Company staff in 1937. Commissioned a captain in the Army Air Forces in 1942, he served overseas for three years.

Chilean Nitrate Shipments on Schedule

According to official sources, shipments of Chilean nitrate of soda are coming in on schedule and it is expected that the entire current quota will be received by the end of the fiscal year. Last year a shortage of ships and strikes in the Chilean ports made it impossible to ship the entire quota. This country is scheduled to receive 625,000 tons of nitrate from Chile, about 80 per cent of which will be landed at ports from Norfolk south to the Gulf ports, for use in southern agriculture.

International Paper Co. Opens New Orleans Office

International Paper Products Division of International Paper Company has opened a branch sales office in New Orleans. H. Currie is the district sales manager and the office is located at 502 Hibernia Bank Building, New Orleans. Mr. Currie was appointed district sales manager in June and recently moved into his new office.

International Paper Products Division sells the heavy-duty multi-wall kraft paper bags made by subsidiaries of International Paper Company.

Obituary

A. N. Gray

A. N. Gray, one of the leading members of the fertilizer industry in Great Britain, died on October 5, 1947 at his home in St. Leonards, England, after an illness of several years.

Mr. Gray was active in the International Superphosphate Manufacturers' Association and was Honorary Secretary of that body from its foundation until ill-health compelled him to retire in July, 1946.

Southern States Cooperative Opens New Mixing Plant

The Southern States Cooperative, Inc., Richmond, Va., is placing in operation a new plant at Culpeper, Va. The plant which was designed, constructed and equipped by Blaw-Knox Company, Pittsburgh, Pa., will mix fertilizers and dispense them in bulk by truck to their customers.

The plant utilizes an elevated, leakproof storage bin supported on steel beams. The bin is of cylindrical type, 22 feet in diameter and contains four compartments for the storage of ammonium nitrate, muriate of potash, ground limestone and superphosphate. Its total storage capacity is 265 tons, but the company is now designing fertilizer plants with bins of 500-ton capacity. The bin has a weather-tight steel roof. A long substructure under the bin was provided to accommodate a rotary mixer used by Southern States to blend the granular materials.

A standard cement-type bucket elevator unloads directly from hopper bottom freight cars or box cars and discharges into an enclosed turnhead, which in turn discharges the material into the correct compartment. Material from the bin compartments is proportioned by a 2000-pound Blaw-Knox weighing batcher. This weighing batcher has radial filling gates, clamshell discharge gate and springless dial scale, and is also equipped with flop gate and chutes for diverting the weighed material into the mixer or directly into trucks.

Adjacent to the plant is a 12-car railroad siding, capable of handling 600 tons of materials. Each rail car is moved over a hopper and its contents dropped, after which the bucket elevator conveys the material to the elevated storage bin. Southern States Cooperative has also enclosed the operating and mixing zone of the plant with aluminum sheeting.

The plant is reported to have cost in the neighborhood of $50,000, plus another $15,000 for trucks. It was built in three months and three days, which included construction of the railroad siding and truck roadways. It is estimated that two men can operate the plant, turning out 160 tons of mixed goods in an 8-hour day.

The Southern States Cooperative, Inc. and the Pennsylvania Farm Bureau Cooperative Association, of Harrisburg, Pa. also operate large dry mixing plants in Baltimore, Md. and Norfolk, Va.

New Mixing Plant of Southern States Cooperative, Inc at Culpeper, Va.

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FERTILIZER MATERIALS MARKET

NEW YORK

Industry Feels that Marshall Plan Will Produce Shortage of Domestic Nitrogen. Market on Feed Organics Strengthens with Approach of Winter. Some Improvement in Box Car Shortage. Demand Exceeds Supplies on All Fe tilizer Chemicals

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, November 12, 1947.

There is considerable discussion in the trade regarding the Marshall plan and what effect it will have on supplies of chemical nitrogen. All parties agree that if the plan goes through in its present form there will be a decided cut-back in the supply of chemical nitrogen. Most producers have allocated their estimated production to the domestic trade with the exception of the material already earmarked for export shipment, and should the Marshall plan go through they look for further cut-backs to the domestic trade.

Organics

The organic fertilizer materials market remained tight due to lack of available supplies for quick shipment. Leading producers of many materials remain in a sold-up position and are unable to take on any additional business; in some cases the five-day week has cut down their production. Animal tankage was available at about $9.50 to $10.00 per unit of ammonia ($11.55 to $12.15 per unit N) and blood at about $10.00 (12.15 per unit N). With colder weather in the western section of the country the feed demand picked up and feed buyers continued to take most of the available material. Fish meal was hard to locate for prompt shipment and fishing season was over in the North. Practically no material remained on hand at the fish factories. Vegetable meals continued rather erratic and, after dipping down to new low prices for the season, quickly recovered due to the strength of the oil markets. Last sales of soybean meal were made at $80.00 per ton f.o.b. Decatur, Ill. Cottonseed meal remained firm in price.

Even low grade organic materials are in a sold up position and demand for cocoa shells was particularly good with practically no supplies available. Some ground peanut hulls were available for shipment from southern points.

Potash

A large percentage of fertilizer manufacturers are inquiring for more potash, due to the increased demand, and producers are doing their utmost to allocate on a fair basis the available tonnage. Some easing of the box car shortage was reported in some sections.

Castor Pomace

Numerous inquiries were reported for this material but the supply was extremely limited. Producers were forced to allocate material whenever any material became available.

Sulphate of Ammonia

While shipments were being made against season's contracts, on a fairly good basis, the demand for this material was heavy from all sections and there were several large export inquiries in the market.

Bone Meal

Some producers are about sold out for the next few months and buyers report an increased demand from various local outlets. The meatless days have cut the production at some plants.

Nitrate of Soda

Producers were allocating available supplies but demand continued excellent. Producers of the imported material seem to feel their quotas will be filled satisfactorily.

Superphosphate

Triple superphosphate continued to supply interest in this market but as the visible supply for this season has already been sold on contract, no additional business was reported.

CHICAGO

Very Little Fertilizer Organics Available. Feed Material Prices Lower but Still Out of Fertilizer Range

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, November 8, 1947.

Excepting for an occasional sale of a carload or two of nitrogenous, there have been no interesting developments in the organic materials market. Fertilizer tankage is still unobtainable and no indications of it being offered during the balance of this season.

In other feed stuffs there has been some mark-down in prices on account of buyers' resistance confronting sellers. Wet rendered tankage and blood are at somewhat lower than preceding levels. This, however, will not make for practical use of packing house tankage and blood for fertilizer purposes.

PHILADELPHIA

Export Plan Causes Dissatisfaction. Demand Still Heavy for All Fertilizer Materials. Box Car Shortage Continues Serious

Exclusive Correspondence to "The American Fertilizer"

PHILADELPHIA, November 10, 1947.

The demand for chemical nitrogen still exceeds the production program, and there is considerable dissatisfaction with the plan to restrict domestic deliveries in order to increase export shipments. Car shortage is still serious throughout various raw material areas.

Sulphate of Ammonia.—Demand continues heavy and the increased steel production has not helped the supply situation. Producers could find ready outlet for more material at better than present contract prices.

Nitrate of Soda.—Market shows usual off season quietness, and imports seem to be arriving with prescribed regularity.

Ammonium Nitrate.—Demand continues ahead of production, and the trade does not take kindly to the limitations placed against domestic deliveries in favor of export.

Blood, Tankage, Bone.—These organics have firmed up a bit, but current demand is not strong enough to advance prices. Blood is quoted at $10.00 per unit of ammonia ($12.15 per unit N), with tankage at $9.50 to $10.00 ($11.55 to $12.15 per unit N). Steamed bone meal is offered at $57.50 per ton, while raw bone is practically unobtainable.

Fish Scrap.—There is no unusual demand, and offerings are not plentiful. Meal is quoted at $145.00 to $150.00 per ton.

Phosphate Rock.—Heavy demand keeps the market definitely tight, and shortage of cars continues to be a serious factor.

Superphosphate.—The market for normal material is fairly tight, while the supply of triple is said to be exceedingly scarce.

Potash.—Demand continues strong with box car shortage still hindering domestic production and shipment. It is reported that shipments of French muriate of potash should begin to arrive shortly and continue over the next several months, amounting to a total of probably twenty thousand tons.

Potash Co. of America To Enlarge Plant

Funds for a substantial increase in productive capacity have been appropriated by the directors of Potash Company of America. This action was taken, it was stated, as a major step toward satisfying the unprecedented demand from American farmers for potash, an essential plant food. Completion of construction, which will commence at once, is dependent upon equipment deliveries and may not be completed before early 1949.

Directors expressed complete confidence in the future of American agriculture.

All officers of the company were re-elected for the ensuing year, and a dividend of thirty-five cents was declared payable December 1, 1947, to stockholders of record on November 15, 1947.

Nauru Island Put Under U. N. Trusteeship

The phosphate deposits on the island of Nauru in the Pacific Ocean have been placed under the joint administration of Great Britain, Australia, and New Zealand, by vote of the general assembly of the United Nations. This island, which contains estimated phosphate rock deposits of 90,000,000 tons, was formerly a mandate of the British Commonwealth under the League of Nations.

The island was occupied by the Japanese from 1942 to 1945 and frequent bombings during the war destroyed most of the phosphate mining equipment. Australia appealed for a prompt decision from the United Nations as the phosphate supplies from this island were needed to meet commitments to the world food supply.

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International Increases Phosphate Facilities

An increase in the output of phosphate rock to meet the growing demands of the fertilizer industry and agriculture will be assured by the new dryer facilities to be added by International Minerals & Chemical Corporation at its Noralyn plant now under construction near Bartow, Florida.

Franklin Farley, vice-president in charge of the phosphate division, has stated that the new plant will be able to handle about one million tons of phosphate ore annually—the entire output of the Noralyn mine. The installation is being designed and constructed by the Rust Engineering Company of Pittsburg and will be in operation in about one year. The mine proper will begin production of phosphate rock in February, 1948, but its output will be dried at other company facilities until the new equipment is ready.

By virtue of the new Noralyn mine and drier, International will be enabled to increase its phosphate output approximately 300 per cent over its prewar totals. The present expansion program was undertake to meet the growing domestic need for plant foods which use phosphate as a principal component as well as industrial requirements for the mineral. When its present expansion program is completed next year, International's facilities alone will produce as much phosphates as was produced by all companies in the Florida phosphate fields before the war. These include the mining, drying, and storing facilities of the corporation at Peace Valley, Achan, and Mulberry, Florida:

In addition to meeting the increasing domestic demands, the new facilities are expected to make available some surplus of output for foreign shipment to both Europe and the Western Pacific areas, Mr. Farley said.

Summers Issues Anniversary Booklet

In connection with the 25th anniversary of the founding of the Summers Fertilizer Company, of Baltimore, Md., the company has issued a very attractive and well prepared booklet in two colors, giving the history of the company from its modest beginning in 1922 to its development into one of the leading fertilizer producers in the Middle Atlantic and New England territory.

The firm was organized by Walter P. Summers, Willis R. Dresser and James E. Totman and opened a small dry-mixing plant in Baltimore. Mr. Summers died within two months of incorporation. In 1924 the plant of the Hubbard Fertilizer Company of Baltimore was purchased, which added superphosphate producing facilities to the Summers equipment.

The company then opened up branches in Maine and Eastern Canada, and at the present time is operating dry-mixing plants at Sandy Point, Houlton and Mars Hill, in Maine, and at St. Stephen, New Brunswick, Canada, with a sulphuric acid and superphosphate plant (Northern Chemical Industries) and a mixing plant at Searsport, Me. The latest acquisition is the purchase of the Griffiths & Boyd Fertilizer Company, of Baltimore.

In addition to its fertilizer business, the company, through a subsidiary, Maine Food Processors, operates a large fish meal plant at Eastport, Me.

Mr. Dresser retired in 1936, leaving James E. Totman, president of the company, as the only original incorporator. The other officers of the company include William A. Fessler, Ralph E. Fraser and Grant J. Campbell, vice-presidents; N. Kenneth Totman, treasurer; Doris C. Zaiser, secretary.

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U. S. D. A. Agronomists Urge Using Pastures To Save Grain

Substituting forage for grain to provide more food for people requires special attention to pastures and other sources of roughage, according to the U. S. Department of Agriculture.

Agronomists at the Department's Plant Industry Station see the possibility of putting a number of plans into operation both for actual direct saving of seed grain and in increasing the yield of grass and other forage. There is some possibility for even winter work to improve forage prospects for next summer.

At this time of the year there is still a possibility, according to the agronomists, of strengthening permanent pastures by fertilizing with commercial fertilizer or topdressing with manure reinforced with phosphate. This is the time when farmers can get in renovation work on thin, worn pastures. Liming and disking done this fall or at a possible favorable time in the winter should be followed by spring fertilizing and seeding to adapted, tall, rapid-growing grasses and legumes. Liming has a record of producing very noticeable gains in feed production and profit.

Another thing the forage men suggest is the possibility of extending the grazing area next spring on many farms by draining wet areas this fall and winter in preparation for seeding to adapted pasture and hay mixtures.

The agronomists suggest the possibility of saving considerable grain that might otherwise be used for seed for temporary pastures by substituting rye grass. The rye grass makes good early summer pasture just as do many of the small grains. Later Sudan grass may be seeded for summer pasture in most parts of the country, or millet may be used for this same purpose—Pearl millet in the South and Foxtail millet in the North and Midwest. The Sudan and millet pastures make a good follow-up for rye-grass pasture.

Wherever annual lespedeza or sweet clover is adapted the agronomists say it is good practice, especially under these present conditions, to seed in small grain next spring so that it will provide a good protein-rich pasture not too long after harvest of the grain crop. This double use of the land is often highly profitable both from the standpoint of immediate return and soil improvement.

The forage experts emphasize the importance of giving pastures rest, that is, freedom from grazing. They encourage doing everything possible to keep the pasture plants growing at the maximum rate even though there may be more produced than can be used at the time. They call attention to the possibility of saving all such surplus production through mowing it and putting it in the silo or in the barn or stack as hay, to be used as a summer pasture supplement or for fall and winter feeding.

Soybeans or cowpeas could be used for summer grazing, providing a high protein roughage which would conserve grain and other concentrates.

Rates of application of fertilizer and lime vary with localities as do rates of seeding of grass and the other crops mentioned. State experiment stations and county agents will know what is best for local conditions.

APFC Makes Grant for Pasture Research in Georgia

A grant of $2,000 has been made to the Georgia Experiment Station by the American Plant Food Council for winter grazing research, according to Dr. O. E. Sell, pasture specialist at the Station, and Professor W. O. Collins, head of the Agronomy Department at the College of Agriculture, Athens.

Edward Parker and Charles Domby, two graduate students in agronomy at the College, were awarded fellowships under this fund. Mr. Parker, a native Georgian, graduated from Berry College. Mr. Domby is from Denver, Colo., and graduated from Colorado State College. They will be under the joint supervision of Dr. Sell and Professor Collins.

High-nitrogen, complete fertilizers for winter grazing, will be the subject of investigation. This research problem of supplying early nitrogen to winter pastures will be the basis for the M. S. theses of both students. Experimental work has been started at the Station.

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This includes yields, sod studies, and chemical analyses. Messrs. Domby and Parker attend graduate classes at Athens and come to the Station whenever necessary.

An abundance of early fall and winter grazing is of particular importance under present conditions of over-all food and feed shortages. The supply of soil or fertilizer nitrogen affects the earliness and amount of winter grazing more than any other factor, with the possible exception of early seeding date. A special, high-nitrogen, complete fertilizer—a 10–10–10—is being used in the experiments this year. Such high-nitrogen fertilizers are difficult to apply if they are not used soon after mixing. Adaptation of machinery to handle such fertilizers is also under investigation.

These studies, made possible by the American Plant Food Council, will not only enable the Station and the College to secure valuable information on winter pasture fertilization, but also permit worthy students to complete requirements for a master's degree at the University. In addition, it will give them experience in conducting field experiments, as well as in obtaining worth-while facts for the farmers of the State.

Ohio Wheat Pays Well for Extra Fertilizer

Ohio farmers are advised to use from 400 to 500 pounds of fertilizer per acre on wheat sown this fall or small grains planted next spring if a seeding of grass or legumes is to be made in the grain. Ohio State University agronomists say the rate of application may be reduced by one-third if no grass seeding is to be made.

For wheat ground where the crop might lodge, the recommended fertilizers are 0-20-10 or 0-12-12. Less productive land will pay profits on the use of 4-12-8, 3-12-12, or 3-18-9 for wheat. Ohio's sand, mulch, or peat soils should receive 3-9-18 if planted to wheat.

The agronomists say that a good general principle for the use of fertilizer is to apply one containing equal amounts of phosphoric acid and potash if the land has not been manured regularly. Soils which ordinarily produce wheat with heavy straw or corn on big stalks usually have a good supply of nitrogen.

The agronomists explain that applications of fertilizer on meadow and pasture lands frequently produce a greater profit than fertilizers applied for grain or cultivated crops. Liberal applications of both phosphorus and potash are important on meadow crops, and 50 to 60 pounds of nitrogen per acre, applied in winter or early spring, is profitable when more hay or grass is needed.

Efficient Orchard Fertilization

The need for a uniform apple production to prevent the harvesting and marketing problems that follow in the wake of alternate light and heavy crop years was stressed today by A. H. Teske, horticulturist for the Agricultural Extension Service of Virginia which states in its *News Service:*

"High on Teske's list of recommendations is an efficient orchard fertilization program, to produce dark green healthy leaves, more fruit buds and finally more quality fruit.

"Farmers are advised to apply nitrogen fertilizer sometime between the first of November and the first of December. On Yorks, Jonathan, Grimes Golden, and similar varieties, all the fertilizer may be put on in the fall. On Stayman Winesaps and Old Fashion Winesaps, from ⅔ to ¾ of the fertilizer should go on in the fall, the rest to be applied in the spring when the trees are in the full pink stage of bloom.

"The amount of nitrogen fertilizer to apply depends on the age and condition of the trees, Teske said; but generally where all the fertilizer is to be put on this fall, the amount should be increased by ⅓ the amount put on in 1947. Where the split application is used, increase the amount per tree by ¼ above the 1947 application.

"It is also important to apply fertilizer to the cover crop, Teske said. A phosphate and potash mixture, or a complete fertilizer applied at the rate of 200 to 300 pounds per acre in late winter or very early spring is recommended."

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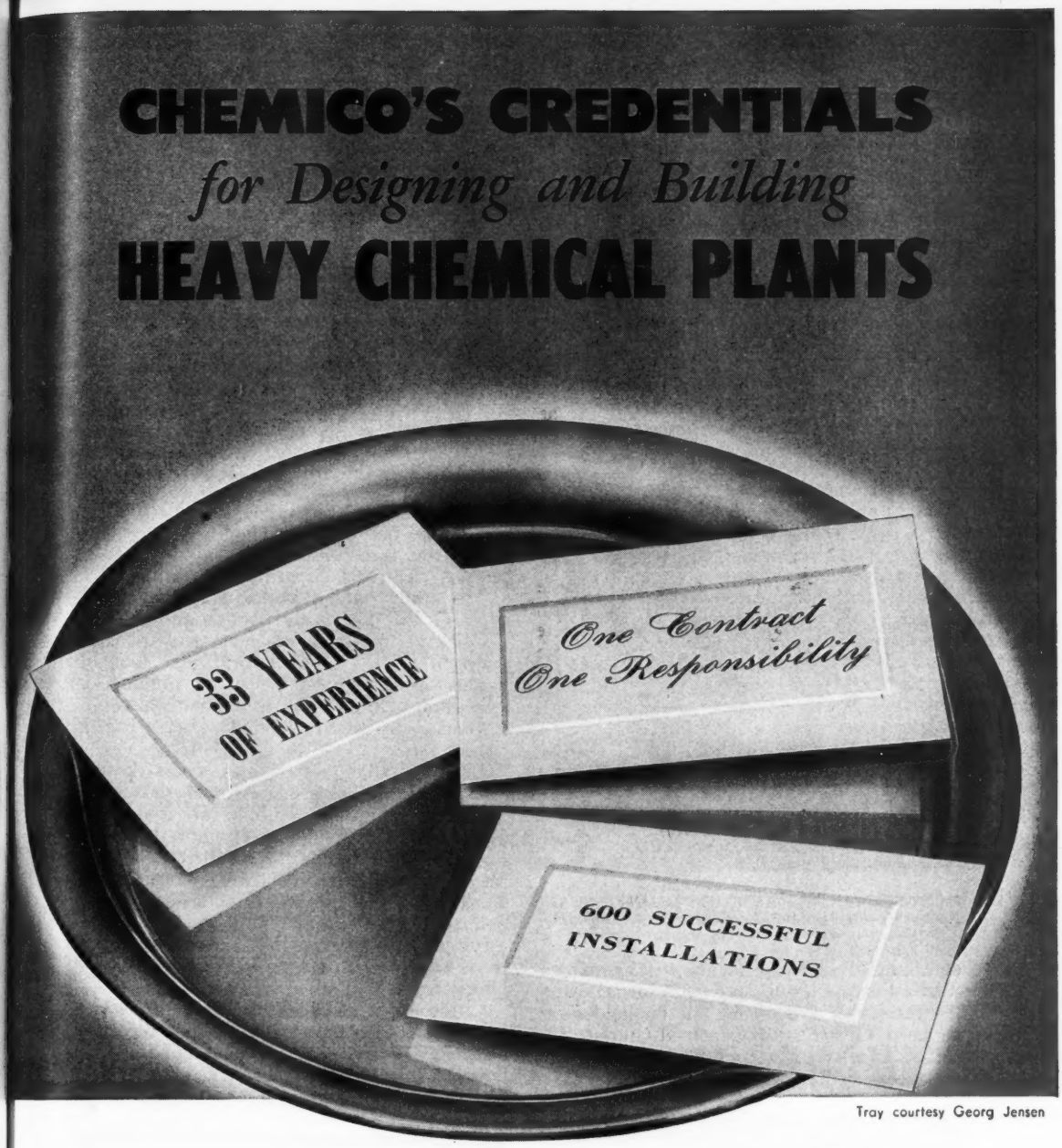

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Improvements in Exact Weight Scales

The Exact Weight Scale Co., Columbus 8, Ohio, has recently made two improvements in their bagging scales, such as are used in the fertilizer industry. A new type adjustable bagholder has been developed as shown in the accompanying illustration. The jaws and body of the holder are made of a special

IMPROVEMENTS IN EXACT WEIGHT SCALE
Upper: New bagholder. Lower: New sacking valve

aluminum heat-treated alloy, with stainless steel adjusting screws and nuts for adjusting the tension of the jaws. The bagholder can be used for paper, paper-lined, burlap and cotton bags and can be furnished in 10-inch round and 6½ by 8½ elliptical styles.

The new rapid sacking valve is also made of aluminum alloy. The gates are closely fitted and one is provided with a lip to control leakage. The construction of the valve permits it to extend down into the top hopper of the scale, which prevents spillage and keeps the material from flying into the operator's eyes. Bulletins giving details of these improvements can be obtained by writing to the company offices.

Fertilized Corn Has Stoutest Root System

Which has the stronger roots—hybrid or open-pollinated corn? A project to compare the root strength of corn varieties and to determine the effect of fertilizers on this factor was recently carried out at the Virginia Agricultural Experiment Station.

The study, under Associate Plant Pathologist G. M. Shear and Agronomist M. H. McVickar, involves measurement of the root strength of U. S. 13 hybrid and Golden Queen open-pollinated corn to obtain an indication of their standability, or resistance to damage by wind, especially after a heavy rain.

Using a pulley, lever, and scales device, Shear and McVickar have found that pulls required to uproot stubble of individual plants after the fodder was removed ranged from 50 to 500 pounds. In all tests so far, they reported, hybrids were consistently harder to pull from the ground than open-pollinated plants, and plants which received a complete fertilizer required more pull than those which were lacking in potash or phosphoric acid.

Citing single instances, Shear and McVickar said one Golden Queen plant which received no potash came up with a pull of only 50 pounds while a U. S. 13 hybrid plant which had complete fertilization was not uprooted

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until a pull of 500 pounds had been exerted. In tests so far, the average pull in pounds needed has been about 400 for U. S. 13 under complete fertilizer and about 95 pounds for Golden Queen which received only nitrogen.

The two scientists pointed out that poor standability resulting in lodging and breaking of stalks made corn difficult to harvest and said a large and vigorous root system also indicated higher yields.

Some tests in this field have been made previously, but the work just begun marks the first attempt to conduct them on an extensive scale.

High Rate of Fertilizing Justified

Even with the patchwork design of ample rainfall and drouth in Virginia this year, there are no sections in the State that have not seen an upswing in cash returns from efficient fertilization, according to H. L. Dunton, acting head of the agronomy department at Virginia Polytechnic Institute.

The popular belief that heavily-fertilized corn will burn worse in a dry year than corn poorly or lightly fertilized has been refuted by 1947 observations, he added. Many cornfields were inspected in the dry section this year, and in all cases the well-fertilized corn stood the drouth better and yielded higher.

Fertilization "paid off" too on the State's ladino clover-orchard grass stands, Dunton pointed out. Those pastures that have been properly fertilized, well-managed, and have had enough rainfall have produced more grazing than any other legume-grass combination. However, the agronomist said, as ladino is a shallow rooted crop, it does not produce much growth during dry weather.

A minimum of 800 pounds of fertilizer per acre at seeding, and 500 pounds for topdressing is recommended for satisfactory alfalfa yields, Dunton said. Although alfalfa is one of the most costly hay crops to establish, the initial expense is more than balanced under proper management by heavy yields. Also essential for alfalfa growth is the proper amount of lime, which can be determined only by a soil test.

War on the Nematodes

Under the Research and Marketing Act, the U. S. Department of Agriculture has launched an investigation to discover practical methods of exterminating the nematode, one of the worst enemies of farm crops. While the minute worm is found throughout the United States, its worst depredations occur in Southern and Southwestern States where a mild climate and long growing season allow them to multiply faster and feed longer on plant roots than in other parts of the country. Hence the Department will work with experiment stations of the South and Southwest, to find out more about these eelworm parasites that cause root knot, and how to protect crops from them.

Among the tests to be made is one to determine if fertilizers can be employed to control the nematode.

Experimental work hitherto has shown that certain soil fumigants will destroy the pest but the fumigants have been too expensive for field application. It has also been found that cereals are more resistant to the nematode than many other crops which has led to recommendations of crop rotation of susceptible and resistant crops as a control measure.

Alfalfa, lespedeza, sweet potatoes, Irish potatoes, peanuts and cotton among the major crops are recognized as hosts which the worm favors. What part weeds may be playing in the nematodes life cycle, about which very little is known, will be investigated. The natural enemies of the worm will also be studied.

If successfully carried out, this investigation will make a major contribution to agriculture throughout the Nation.

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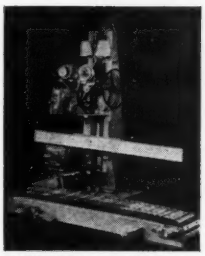

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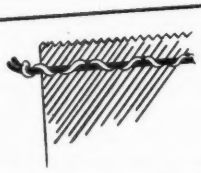

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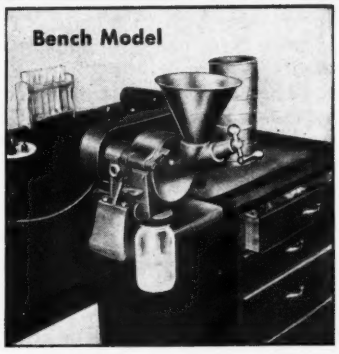

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St. Regis Completes New Vancouver Plant

Completion of a new $450,000 multiwall paper bag plant at Vancouver, B. C., by the St. Regis Paper Company (Canada) Ltd., marks another milestone in the organization's long-range plan for plant expansion and modernization, according to Thomas H. Cosford, vice-president.

The Vancouver plant, together with the recently-expanded facilities at Dryden, Ontario and Three Rivers, Quebec, will enable the St. Regis Paper Company (Canada) Ltd. to develop a capacity of 225,000,000 bags annually.

The Vancouver plant, embodying the latest features in modern industrial design, has 60,000 square feet of floor space and is equipped with two tubers and auxiliary equipment, one Schmuts 72-inch four-color press, one dipping tank, one 72-inch slitter, and rewind unit.

The new plant also has a modern substation equipped with an enclosed type switchboard. Fluorescent lighting is used throughout the plant. Traffic facilities for loading four railroad cars at car floor level are provided. The Canadian Pacific Railway and the B. C. Electric Company will service the plant.

Every precaution has been taken in the new plant to contribute to worker welfare, efficiency and safety. All painting, done to the specifications of industrial engineers, incorporates the best practice of modern color dynamics. Facilities include a cafeteria and lunchroom, special first aid and rest rooms, and modern washrooms and locker rooms.

International Directors Re-elected

Stockholders of International Minerals & Chemical Corporation at their annual meeting on October 28th re-elected all directors, according to an announcement by Louis Ware, president of the corporation.

Directors re-elected are: John E. Bierwith, president, New York Trust Company; Thomas S. Lamont, vice-president, J. P. Morgan & Company; David M. Milton, president, Equity Corporation; Byron B. Ralston, Chemical Bank & Trust Company; R. Douglas Stuart, president, Quaker Oats Company; Henry S. Sturgis, vice-president, First National Bank of New York City; Louis Ware, president; Francis M. Weld, partner, White, Weld & Company; and Robert E. Wood, chairman of the board, Sears, Roebuck & Company.

Toxic Nitrate Accumulation in Plants

Potassium nitrate (saltpeter) can accumulate in certain plants and under certain soil and environmental conditions, in quantities sufficient to be toxic to livestock. This is clearly evident from experimental data obtained in Rocky Mountain States.

A bulletin issued by the Agricultural Experiment Station of the University of Wyoming entitled "Nitrate Accumulation in Cultivated Plants and Weeds," prepared by C. S. Gilbert, H. F. Eppson, W. B. Bradley and O. A. Beath, presents a thorough study of the causes of saltpeter poison in plants, locally called "oat sickness."

"By far the worst offenders in nitrate poisoning outbreaks are cereal grains. In Wyoming, the severest losses from this cause resulted from feeding what appeared to be harmless oat hay. Some losses have occurred from feeding wheat or barley hay," the bulletin states.

The cause of saltpeter accumulation in toxic quantities in plants has been a subject of investigations for several years. The Wyoming investigators found that the nitrate content of plants varied in different areas of the State, and in areas where toxic oats grow, other grains are also high in nitrate. They found that the nitrate content tends to decrease as plants mature.

Quoting: "High available nitrogen in the soil will increase the nitrate nitrogen in plants although the nitrate content of the plants does not seem to correlate with either the nitrate nitrogen or total nitrogen of the soil in which they grow.

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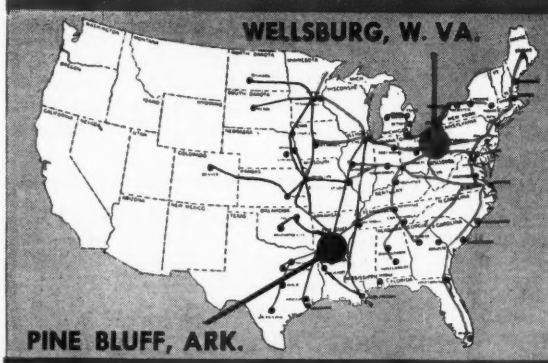

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"Phosphates, in the presence of small amounts of available nitrogen in the soil, decrease the nitrate nitrogen in plants grown thereon, but in the presence of large amounts of available nitrogen have little effect.

"Among the factors that do not seem to be important in nitrate accumulation are: (a) forms of nitrogen used as fertilizers; (b) temperature; (c) continued drought, or (d) traces of boron, manganese, or molybdenum."

With regard to the effect of soils, the report says: "Under similar conditions soils derived from limy shales induce much greater storage of nitrate than a soil such as sandy loam."

An important, and possibly a determining factor, is the degree of sunlight. It is reported as established that most of the toxic feeds were grown in narrow valleys. On this point the bulletin says: "One important factor in nitrate storage is the degree of shadowing of the growing plants. Hence the reduction of light, due to certain cultivated areas being in narrow valleys, may be the cause of high nitrate in plants in those areas."

In their experimental work, crops were artificially shaded in a manner similar to narrow valleys, and it was found that plants in the partially shaded and shaded areas accumulated more nitrate nitrogen than plants in plots unshaded.

It was reported that many weeds, especially pig weed, Russian thistle, fireball, bindweed and nightshade contained considerable KNO_3. No native hays, however, had been found to be toxic.

Cultivated vegetables and feeds grown under conditions similar to toxic grains also contained excess saltpeter. Sorghums, sunflowers and members of the goose-foot and mustard families in particular show excess nitrate accumulations.

Farmers are advised in the bulletin to grow the crops most subject to nitrate accumulation in the sunnier areas and utilize the areas with more shade to crops less subject to nitrate accumulation.

Bemis Distributes 1948 Calendars

Distribution of the Bemis Bro. Bag Co. 1948 calendar is under way, supplies having been sent to all Bemis offices in the country.

Attractively printed in two colors, its 15 x 32 in. size permits the use of large, easily readable type. Each page of the calendar features a picture representing one of the industries served by Bemis. November's illustration, suggesting the milling industry, shows a baker emptying flour bags into a blender. Other pages feature cement, fertilizer, sugar, seed, citrus, chemicals, produce, feed, salt and bedding.

Each page of the Bemis calendar shows the current month printed on a white background, with the preceding and following months in blue. Copies are available on request.

PHOSPHATE EXPORTS SHOULD SHOW FUTURE INCREASE

(Continued from page 11)

said, compared with 400,000 tons a year before the war. Very little potash is being exported.

World phosphate rock production this year was estimated at 16,000,000 tons, Russian production which is unknown excluded. Of the 7,000,000 to 8,000,000 tons produced in the United States, from 6,000,000 to 7,000,000 tons will be mined in Florida.

International Minerals is contemplating an addition to its potash plant in New Mexico, Ware said. An improved process developed by the company will save some of the potash now going out in the effluent.

Output from a new phosphate rock mine in Florida which International Minerals expects to put into operation in February, 1948, is sold for about two years ahead, Ware said. Pointing out that demands are increasing so rapidly that fertilizer plant expansion cannot keep pace with it, he said that it will not be possible to supply the total foreign demand despite the opening of the new phosphate plant which is said to be the largest and most efficient in the world.

Sulphur production is continuing at record levels. September output totaled 406,964 tons, which was about 4 per cent above August and 21 per cent above September, 1946. Stocks on hand at the producing plants on September 30th were 3,444,607 tons, which is equivalent to more than 8 months' supply at current rate of shipment.

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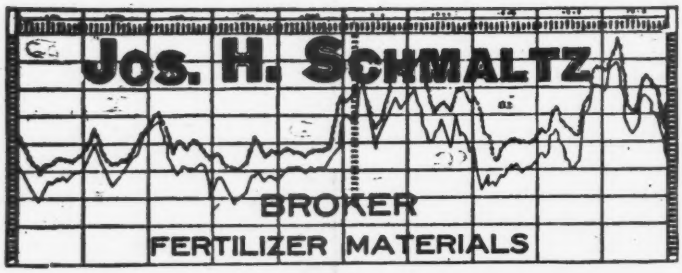

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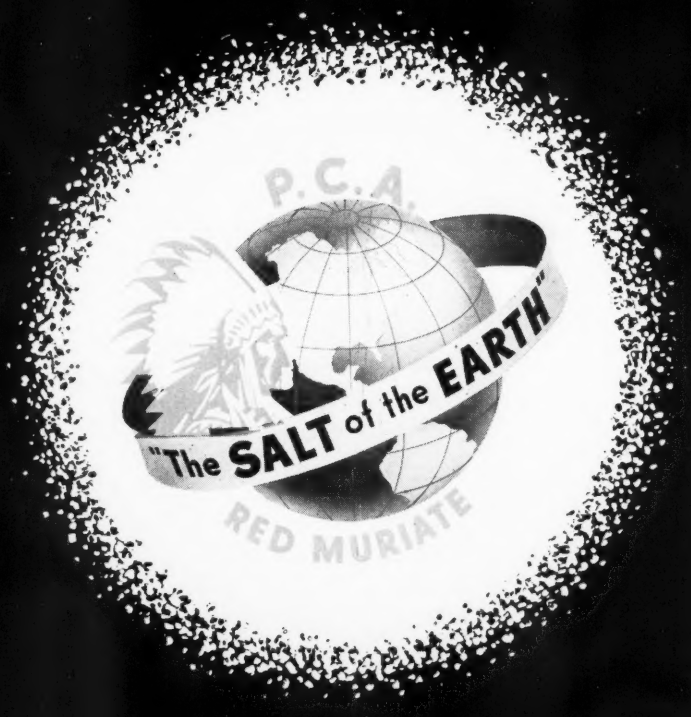

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